Coding for innovators Assignment 3 : Python programs using turtle graphics :

Turtle program 1:

Black Spiral Pattern

```
import turtle

dist = 1

flag = 500

spiral = turtle.Turtle()

spiral.speed(10)

while flag:

    spiral.forward(dist)

    spiral.left(120)

    spiral.left(1)

    dist += 1

    flag -= 1

turtle.done()
```

Turtle Mode!
Type your turtle code in the editor window. When finished, press the play button to run your code.

Editor Window

```
1  # import turtle
2  import turtle
3
4  # initialising variables
5  dist = 1
6  flag = 500
7
8  # initialising turtle
9  spiral = turtle.Turtle()
10
11 # changing speed of turtle
12 spiral.speed(10)
13
14 # making pattern
15 while flag:
16
17     # makes the turtle to move forward
18     spiral.forward(dist)
19
20     # makes the turtle to move left
21     spiral.left(120)
22     spiral.left(1)
23     dist += 1
24     flag -= 1
25
26 turtle.done()
```

Turtle Window
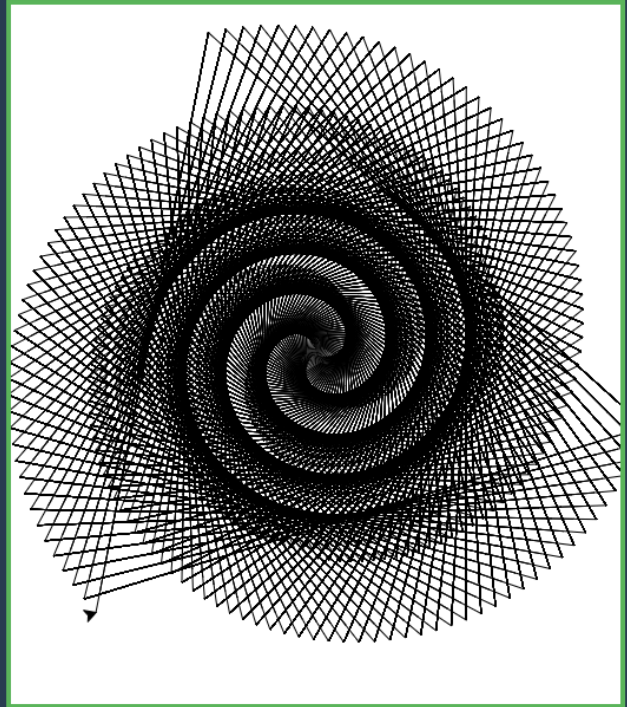
Animate

Turtle program 2:

Snowman Diagram

import turtle

Create turtle object

t= turtle.Turtle()

Create a screen

screen =turtle.Screen()

Set background color

screen.bgcolor("sky blue")

Function to draw body of snowman

def draw_circle(color, radius, x, y):

   t.penup()

```python
    t.fillcolor (color)

    t.goto (x, y)

    t.pendown()

    t.begin_fill()

    t.circle (radius)

    t.end_fill()

# Illustrating snowman

# Drawing snowman body

draw_circle ("#ffffff", 30, 0, -40)

draw_circle ("#ffffff", 40, 0, -100)

draw_circle ("#ffffff", 60, 0, -200)

# Drawing left eye

draw_circle ("#ffffff", 2, -10, -10)

# Drawing right eye

draw_circle ("#ffffff", 2, 10, -10)

# Drawing nose

draw_circle ("#FF6600", 3, 0, -15)

# Drawing buttons on

draw_circle ("#ffffff", 2, 0, -35)

draw_circle ("#ffffff", 2, 0, -45)

draw_circle ("#ffffff", 2, 0, -55)

# Function to draw arms

def create_line(x, y, length, angle):

    t.penup()

    t.goto(x, y)

    t.setheading(angle)

    t.pendown()
```

```
    t.forward(length)

    t.setheading(angle + 20)

    t.forward(20)

    t.penup()

    t.back(20)

    t.pendown()

    t.setheading(angle - 20)

    t.forward(20)

    t.penup()

    t.home()
# Drawing left arm

create_line(-70, -50, 50, 160)

# Drawing right arm

create_line(70, -50, 50, 20)

# Drawing hat

t.penup()

t.goto (-35, 8)

t.color ("black")

t.pensize (6)

t.pendown()

t.goto (35, 8)

t.goto (30, 8)

t.fillcolor ("black")

t.begin_fill()

t.left (90)

t.forward (15)

t.left (90)
```
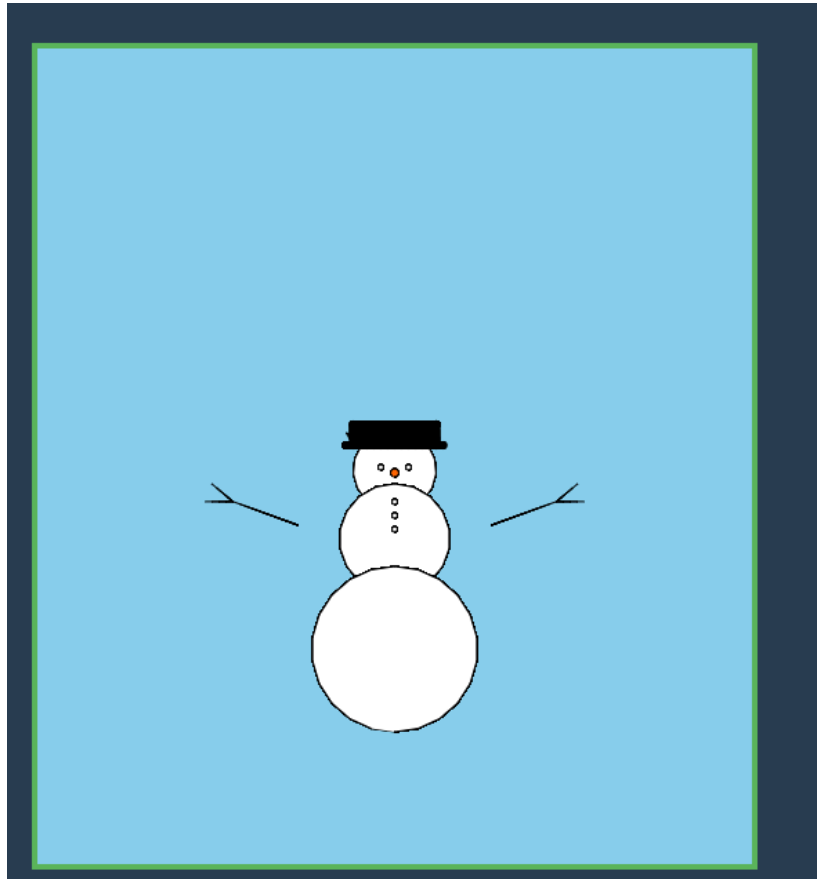
```
t.forward (60)

t.left (90)

t.forward (15)

t.end_fill()
```


Turtle program 3:

Spotify Logo

```
import turtle as tur

tur.Screen().bgcolor("Black")

tur.speed(15)

tur.begin_fill()

tur.fillcolor('#1DB954')

tur.pencolor("#1DB954")
```

```python
tur.pensize(0)

tur.circle(100)

tur.end_fill()

tur.penup()

tur.goto(40,50)

tur.pendown()

tur.left(150)

tur.forward(0)

tur.pensize(15)

tur.pencolor('black')

tur.circle(80,60)

tur.penup()
tur.goto(50,85)

tur.pendown()

tur.pensize(17)

tur.right(60)

tur.forward(0)

tur.circle(100,60)
tur.penup()

tur.goto(60,120)

tur.pendown()

tur.pensize(20)

tur.right(60)

tur.forward(0)

tur.circle(120,60)
tur.done()
```

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main.py ➕ ⬆ 🖼

```python
import turtle as tur

tur.Screen().bgcolor("Black")
tur.speed(15)
tur.begin_fill()
tur.fillcolor('#1DB954')
tur.pencolor("#1DB954")
tur.pensize(0)
tur.circle(100)
tur.end_fill()
tur.penup()
tur.goto(40,50)
tur.pendown()
tur.left(150)
tur.forward(0)
tur.pensize(15)
tur.pencolor('black')
tur.circle(80,60)
tur.penup()

tur.goto(50,85)
tur.pendown()
tur.pensize(17)
tur.right(60)
tur.forward(0)
tur.circle(100,60)

tur.penup()
tur.goto(60,120)
tur.pendown()
tur.pensize(20)
tur.right(60)
tur.forward(0)
tur.circle(120,60)


tur.done()
```